Alternatively Fueled Vehicles

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For purposes of this section, “alternative fuel” refers to fuels that are used in place of gasoline and diesel fuel made from petroleum. In the context of this plan, alternative fuels include the following: biodiesel, electricity, ethanol, hydrogen, methanol, natural gas, propane, p-series, and solar energy (as defined by the U.S. Department of Energy) The U.S. Environmental Protection Agency refers to these as “clean fuels” and defines them as fuels that create less pollution than do today's gasolines. The list includes: electricity, ethanol, methanol, natural gas, propane, reformulated and oxygenated gasoline. More detailed descriptions of these fuels can be found here.
Increasing the share of alternatively fueled vehicles (AFVs) in the community contributes to the TMP objective of continuously reducing air pollutant emissions from mobile sources. AFVs produce fewer air pollutants and greenhouse gases and generally have improved fuel economy, which supports environmental sustainability. For the three distinct vehicle fleets, strategies are:

City Fleet
The city actively acquires AFVs, which currently makes up eight (8) percent of the city fleet. The city intends to replace 60 percent of light duty vehicles with alternative fuel or hybrid vehicles. Ultimately, the challenge would be to replace all vehicles with alternative fuel or hybrid vehicles.

- Public (Bus) Fleet

Currently, AFVs make up a small percent of the transit fleet. The city will work with Special Transit and RTD in vehicle selections and specification development (i.e., influence standard vehicle specifications) to pursue AFVs. Special Transit intends to pilot AFVs, and based on that experience, the city and its partners will develop an appropriate target for AFVs in the public fleet.

Private (Citizens of Boulder) Fleet
Cost, inconvenience of “fueling”, lack of convenient options, and lack of information are barriers to private AFV ownership. The city will work to address these barriers and develop a target for increasing the number of AFVs in the Boulder community. These barriers will likely be overcome incrementally, and this will be reflected in the target.

Overall, the infrastructure to support alternatively fueled vehicles will be developed on an incremental basis, building on successes along the way. The most important result of the infrastructure would be availability of an attractive, competitive alternative to the petroleum-fueled vehicle for travel to and within Boulder and ultimately in the region.
Building Infrastructure by Building Partnerships
Although the city of Boulder can develop an infrastructure to support AFVs, a more effective approach is to address this at a regional level. If a regional infrastructure were developed to support AFVs, drivers would be able to locate alternative fuel anywhere in CO and, therefore, would not be limited to fueling only in Boulder. To begin the regional discussion, the city will form a coalition with the Front Range communities and identify ways to create an infrastructure to support AFVs. To assist in the discussions about AFVs, the city will rely on National Renewable Energy Laboratory's (NREL) technical support in terms of data and analysis on alternative fuel vehicles and the supporting infrastructure. The city will actively seek to develop partnerships with businesses and other organizations to create an infrastructure to support alternatively fueled vehicles, as well as to generate demand for alternative fuel vehicles.

Key alternatively fueled-related elements of these partnerships will include:

- Reduced costs of purchasing alternatively fueled vehicles.

- Accessible and affordable alternative fuel for vehicles.

Examples of partnerships include:

- Boulder Valley School District (BVSD)

- University of Colorado (CU)

RTD and Special Transit
Businesses:
- o Car dealers and manufacturers
- o Auto body shops
- o Fuel distributors

o Fuel and service stations

- Neighborhood organizations

- Downtown Improvement District
University Hill General Area Improvement District

Specific details on the partnerships can be found on each fleet web page: City, Public, and Private.
Steps to Implementation
Focusing on AFVs is a new component of the Transportation Master Plan. Therefore, the first step to implementing a AFVs program is to gather information, meet with stakeholders, and develop an appropriate program that addresses all three fleet markets (public, private, and city). Although all three fleets do contain some AFVs, the city has not been involved in a coordinated manner to increase the total share of the AFVs in the community.

For specific details on implementation for each fleet, go to the City, Public, and Private Fleet web pages. The programs/procedures and infrastructure improvements that are not specific to a particular fleet (public, private, or city) are listed below. These programs/procedures and infrastructure improvements will be implemented based on available funding.

Programs/ Procedures

Develop a measurement program to monitor the progress towards our goal of increasing the number of AFVs. The first step for the measurement program is to determine the targets for each fleet (city, public, private). The city will research what other communities are using as targets and meet with relevant stakeholders within the Boulder community to devise appropriate goals. Once the targets are identified, the city will work with the stakeholders to determine the appropriate ways to measure and monitor progress.

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Assign duties to existing staff to include AFV tracking and development in a variety of fleets. Staff will research, evaluate, and coordinate the development of programs and procedures to increase the use of AFVs as well as the infrastructure improvements to support alternatively fueled vehicles. The coordinator will work with the identified stakeholders throughout the process.

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Continue to be involved in state processes related to air quality and alternatively fueled vehicles. The city will continue to coordinate with state programs that are linked to the U.S. Environmental Protection Agency and the U.S. Department of Energy (e.g. Clean Cities).

Infrastructure Improvements

Evaluate the infrastructure that is needed to support the use of alternatively fueled vehicles. The city will research various types of alternatively fueled vehicles available (or expected to be available) in the private, public, and city fleet. In addition, the city will research the infrastructure that exists in other parts of the country to support alternatively fueled vehicles. As part of this process, the city will evaluate alternatively fueled vehicle programs that are in place in other regions. The research will include those communities with similar characteristics to Boulder, successful programs, and various types of design/infrastructure improvements. For instance, although San Diego is a much larger community than Boulder, one of the goals of their transportation system is to promote environmental sustainability by reducing smog-forming pollutants from motorized sources as well as by reducing reliance on non-renewable energy by motorized vehicles.
Alternatively Fueled Vehicle Policies
The goal is to increase the number of AFVs by 2025 in the private (citizens of Boulder), public (bus), and city fleets. To meet this goal, the city will employ the following policies:

- The city will be a leader in the community in purchasing and utilizing alternatively fueled vehicles.
The city will contribute to an infrastructure supporting alternatively fueled vehicles, developed with Boulder County, CU, the Boulder Valley School District, RTD, Special Transit and other interested parties.
Alternatively Fueled Vehicle Goals & Objectives
The city will employ to create an affordable and accessible AFV infrastructure by focusing on the following goals and

objectives:

- Establish baseline measures to determine the percent of alternatively fueled vehicles in public (bus) and private (citizens of Boulder) fleets.

- Explore methods for providing and encouraging accessible, convenient, and affordable options for alternatively fueled vehicles.

Standardize the replacement of city fleet vehicles with alternatively fueled vehicles by establishing a target for clean burning fleet ratio.

- Work with other regional agencies to encourage clean burning technologies for fleet turnovers (i.e., replacement of vehicles).

Encourage citizens to use alternatively fueled vehicles through creation of programs in the work place (e.g.,Transportation Management Organizations) and in neighborhoods (e.g., car share).
Benefits

In general, the benefits of an increase in the use of alternatively fueled vehicles will include:

- Improving air quality,

- Decreasing mobile source emissions of air pollutants (CO, VOC, Nox, CO2),

- Reducing our dependence on imported petroleum,

- Reducing our consumption of non-renewable resources, and
Exceeding federal clean fuel vehicle emission standards.